**Part 1: Number systems**

Exercise 1:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dec | 4-bit Binary | Dec | 8-bit Binary | Dec | 16-bit Binary |
| 9 | 1001 | 7 | 0000 0111 | 255 | 0000 0000 1111 1111 |
| 7 | 0111 | 31 | 0001 1111 | 193 | 0000 0000 1100 0001 |
| 4 | 0100 | 105 | 0110 1001 | 182 | 0000 0000 1011 0110 |
| 13 | 1101 | 155 | 1001 1011 | 334 | 0000 0001 0100 1110 |
| 12 | 1100 | 161 | 1010 0001 | 519 | 0000 0010 0000 0111 |

Exercise 2:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dec | Binary | Hex | Dec | 16-bit Binary | Hex |
| 9 | 1001 | 0009 | 255 | 0000 0000 1111 1111 | 00FF |
| 127 | 0111 1111 | 007F | 192 | 0000 0000 1100 0000 | 00C0 |
| 123 | 0111 1011 | 007B | 184 | 0000 0000 1011 1000 | 00B8 |
| 155 | 1001 1011 | 009B | 312 | 0000 0001 0011 1000 | 0138 |
| 164 | 1010 0100 | 00A4 | 513 | 0000 0010 0000 0001 | 0201 |
| 39 | 0010 0111 | 0027 | 268 | 0000 0001 0000 1100 | 010C |

Exercise 3:

1: 247: 1111 0111

123: 0111 1011

174: 1010 1110

2: 557: 0000 0010 0010 1101

168: 0000 0000 1010 1000

453: 0000 0001 1100 0101

3: -53: 1100 1011

-161: 0101 1111

-145: 0110 1111

4: 01101011 b: 107

10101101 b: 173

10001010 b: 138

01001110 b: 78

**Part 2: Explore memory structure of programs**

File source code em nộp kèm rồi ạ.